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In agreement with results of previous investigations the author found that the impression value (effectiveness for memory) of successive readings decreased very rapidly, this holding true in both the learning and the re-learning recitations. The impression value of successive recitations decreased quite in the same manner. The impression value of a recitation in inducing immediate memory as compared with that of reading far exceeded the latter in all cases. It was greater after the hour's interval when the initial degree of impression already present had been obtained by reading and recitation instead of by reading alone. Likewise, the memory permanency, as measured by the first recitation alone after the hour's interval, was greater for the series that included recitation with the reading. The combination of readings and recitations that resulted in the quickest re-learning showed a complex order, from which the following conclusion is drawn: (1) The optimum total time for reading equals about one-fourth of the total time spent on reading and recitation together. (2) The optimum division of the total time spent for recitation between learning recitation and re-learning recitation is one that gives less than half to the former.

The figures on which these generalizations are based are in most cases derived in several different ways, the possibility of which may be seen from the nature of the series that were given.

F. KUHLMANN.

*Expériences sur le rôle de la récitation comme facteur de la mémorisation*, par M. DIMITRE KATZAROFF. Archives de Psychologie, 1908. pp. 225-258.

Couplets of nonsense syllables, eight to ten in a group, were presented visually at the rate of one couplet per two seconds to six adult observers, who read the syllables aloud in trochaic rhythm. The presentation of a group was combined with recitations in which the first syllable of a couplet was presented visually, while the observer tried to recall the other, and failing to do so was given the term orally. The final recall, in which the first term of a couplet was again presented as in a recitation, followed 24, 48, or 72 hours after the learning. Using Roman numerals to designate the number of consecutive presentations and Arabic figures for the number of recitations, gives the following combinations, with the intervals before recall, that were employed:

Combinations

A	B	C	D	E
X+I+V	VIII+VII	VIII+VII	IV+VI	IV+VI
X+I+5	VIII+7	VIII+I+VI	IV+6	IV+3+III
			IV+I+I+I+I+I+I	IV+I+I+I+I+I+I
Intervals				
48h.	72h.	72h.	24h.	24h.

The degree of memory induced in the different series was measured by the number of terms recalled, and by the time taken to recall one. Thus measured, the author found that the fixation value of a recitation is greater in all cases than that of a presentation. Syllables that were recalled in the first recitation after the first group of presentations (four to ten) were remembered best, in the final recall, when the relative number of subsequent recitations was greatest. This held true also for syllables that were not recalled in the first recitation, but were recalled in the later ones. The number of syllables recalled in the first recitation but forgotten in the final recall, was greater than the number not recalled in the first recitation, but learned later and remembered in the final recall. This is explained by assuming that the first recitation in a

series shows the observer what he has learned and what he has not learned, resulting in a subsequent concentration of the attention on the latter and a neglect of the former. The best combination of presentations and recitations seems to be one that includes at least two recitations, one for showing the observer what he has already learned and another for memorizing proper, this number depending on the amount of material and the number of previous presentations. Then at least two readings should follow to reinforce the perception of the material as a whole. The recitations should come together, instead of alternately with presentations. Further explanation of the superiority of the recitations is found in (1) a difference in the attitude of the observer in the presentations and the recitations; (2) in the unfamiliarity of an isolated term of a couplet when it has not been presented alone before as in a recitation, (3) in the fact that the neural processes are probably the same in the recitation and the recall, while in a presentation they differ from both.

F. KUHLMANN.

*Ueber Vorstellungstypen*, von L. PFEIFFER. Pädagogische Monographien, II, Bd., 1907, pp. 1-127.

The first eighty-five pages of this monograph are given to review and discussion. The methods and results of investigations on ideational types in verbal, and in concrete thinking are comprehensively and critically considered. This includes studies whose aim and methods were not primarily directed to the investigation of ideational types, but from whose results some inferences as to ideational types can be made. The next twenty-eight pages are given to the presentation of results of the author's own experiments, followed by a discussion of the theory of ideational types, and of their practical significance to the teacher.

The experiment consisted of the subjects' writing down the first suggestion (indicating also the nature of the imagery) aroused by a word pronounced to them by the experimenter. Four classes of words were used, a group of ten of one class being presented at one sitting per week. (1) Nouns with a predominant visual and auditory content. (2) Verbs with a predominant visual and auditory content. (3) Nouns with a predominant kinæsthetic content. (4) Verbs with a predominant kinæsthetic content. Two groups of ten words of each class were used. The test was made the first year on a class of fifteen girls with an average age of ten years. It was repeated on the same girls (with several changes in the class) the second and third years, using the same words as material. Classifying the suggestions aroused by these words as visual, auditory, and kinæsthetic gave the following percentages belonging to each:

	Visual	Auditory	Kinæsthetic
1st year	56	31	12
2nd "	47	31	21
3rd "	50	30	20

It is to be remembered that half the words used were designed to suggest kinæsthetic imagery. Taking the middle values for the class for the number of times each kind of imagery was suggested gave

	Visual	Auditory	Kinæsthetic
1st year	44	25	10
2nd "	39	26	17
3rd "	40	23	14

Taking these middle values as a norm gave the following percentages of the number of children whose imagery exceeded this norm in the three classes: